



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,259	04/07/2004	Allen Mott	003C.0004.U2(US)	7506

29683 7590 07/05/2005

HARRINGTON & SMITH, LLP  
4 RESEARCH DRIVE  
SHELTON, CT 06484-6212

EXAMINER
----------

ORTIZ, ANGELA Y

ART UNIT	PAPER NUMBER
----------	--------------

1732

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/820,259

Applicant(s)

MOTT ET AL.

Examiner

Angela Ortiz

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 18, 20-22, 25-28, 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onoda, USP 6,187,242 in view of Bickford et al., USP 6,506,083 (of record) for the reasons cited in the previous office action.

The cited primary reference substantially teaches the basic claimed method of molding a connector for a fuel tank as claimed, comprising the steps of providing at least one electrical conductor 4,5 or 34,35 which are pre-shaped and bent according to the desired configuration of the connector 1 or 31, molding an insulating material around the conductors to form a primary molded body 6 or 36, wherein the primary molded body, readable on a pre-mold housing, is provided with a plurality of ribs such as 8a, 10a and 10b and other unlabeled projections. A secondary molding is formed around the primary molding to form a surrounding structure within which the connector body is disposed after being formed. See figures 2, 3, and 4; also see col. 2, lines 25-45, 47-54; col. 3, lines 30-65. The formation of the ribs creates an interlocking feature, readable on the claimed tortuous path, for impeding the entry of resin or fluid, including HCs, by providing an effective seal.

The cited primary reference does not teach an electrical conductor with a plurality of ribs as claimed.

The added secondary reference teaches as conventional the feature of an electrical connector comprising an electrical conductor 12 having a plurality of ribs 27 and embedded within an insulating material 14. The interlocking structure 22 is provided at ribs 27 to provide a tight pressure seal between the conductor and the insulating material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a plurality of ribs on the conductor as shown in the added reference, when performing the process set forth in the primary reference, for forming a conductor with a tight pressure seal to prevent the entry of fluid as desired.

With respect to claim 20, note that while PEEK is preferred, other conventional materials may be used; see col. 2, lines 46-53, and such would include polyoxymethylene for the benefit of preventing fuel corrosion.

With respect to claims 21, 22, note that it is well known in the art to provide conventional coatings as claimed for providing a more adherent surface, and it would have been obvious to so include such coating in the process above for yielding increased adhesion as desired.

With respect to claims 26-28, see the primary reference USP 6,187,242 at col. 2, lines 23-55 and col. 3, lines 30-65; and figures 2 and 4 of the cited reference, wherein the claimed limitations are shown and taught.

With respect to claims 30-32, see the added secondary reference at col. 4, lines 5-35 wherein the formation of conventional seals is discussed as desired for the connector; it would have been obvious to include any conventional material, including

Art Unit: 1732

material which remains uncured in the presence of air as claimed, for effecting a seal as desired.

***Allowable Subject Matter***

Claims 7 and 9-12 are allowed.

Claims 19 and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, **including the limitation** that the --melt ribs melt during overmolding, creating an additional seal--. This feature is taken from page 8, lines 20-27 of the instant specification.

***Response to Arguments***

Applicant's arguments filed 11 April 2005 have been fully considered but they are not persuasive.

Applicant argues the new limitations in claims 18 and 25, stating that in claim 18 the plurality of ribs comprise a uniform series of loops around the connector body, and that figure 3 of Onada does not disclose such a shape. Furthermore, that claim 25 has been amended to include a series of circumferential ribs on the exterior side, which is also not disclosed in Onada.

It is unclear whether the applicant associates the mere provision of ribs as a patentable difference. The applicant is re-directed to the threaded surface 30 on the bulkhead 26, which engages the threaded surface 28 of the molded insulating body 14,

Art Unit: 1732

see col. 3, lines 39-55 of Bickford, USP 6,506,083. Note further that the concept of providing a retaining surface on the molded body is set forth in the provision of retainer body 14a of connector body 18, which can be optimized to include conventional shapes for achieving the desired retaining, see col. 4, lines 25-35 of Bickford. It would have been obvious to the skilled artisan to include retaining means as set forth in the added reference to Bickford. This communication stresses that the mere provision of the rib feature does not give patentable weight to the claims. Should the applicant include the melt rib feature on a subsequent amendment, also include the benefit of melting and creating an additional seal to distinguish over the art of record as set forth above. This feature is taken from page 8, lines 20-27 of the instant specification, and is needed to distinguish that it is not the mere provision of ribs that makes the claims allowable. Applicant should amend claim 7 similarly to clarify the record, if the applicant deems the mere provision of ribs a distinguishable feature.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not


Art Unit: 1732

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela Ortiz whose telephone number is 571-272-1206. The examiner can normally be reached on Monday-Thursday 9:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Angela Ortiz  
Primary Examiner  
Art Unit 1732